Building blocks for return to work after sick leave due to depression

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Chapter 7

General discussion
General discussion

This thesis aims to gain more insight into factors that promote return to work (RTW) of employees on sick leave with major depressive disorder (MDD). A better understanding of these factors can stimulate the further development of more effective interventions, aiming to reduce sick leave duration and improve long-term health and work functioning outcomes. Five studies were conducted, investigating: (a) the effectiveness of an occupational therapy (OT) intervention developed in the Program for Mood Disorders at the Academic Medical Centre; (b) the assessment of factors that promote and (c) impede RTW; (d) the comparison of promoting factors for RTW among employees with a different cultural background; and (e) the assessment of factors associated with impaired work functioning among employees with MDD in remission who returned to work.

This chapter starts with a brief summary of the main findings of these studies, listed as the five research questions in the introduction. Next, the results are discussed and strategies on how to improve RTW are presented, together with the potential contribution of OT to these improvements. Finally, methodological considerations and implications for future research and clinical practice are discussed.

Main Findings

Research question 1; Is occupational therapy additional to treatment as usual (TAU+OT) more effective than standard clinical treatment (TAU) in improving adverse work outcomes and depression outcomes in employees on sick leave due to MDD?

A total of 117 patients with MDD were randomised to treatment-as-usual (TAU, n=39) and TAU plus occupational therapy (TAU+OT, n=78). Work outcomes were: time taken to RTW, either part-time or full-time, and level of work functioning. Health outcomes were defined by depression severity and health related quality of life.
Intermediate outcomes were work-related coping and self-efficacy. Assessments took place at baseline, and at 6, 12 and 18-month follow-up.

Both groups significantly decreased their hours of absenteeism (p<0.001), with the largest decrease between 6 and 12 month follow up (p<0.001). The study revealed no significant differences between groups in time to RTW, either part-time or full-time. The median number of days until partial RTW in TAU+OT was 80 (IQR: 42–172) and in TAU 166 (IQR: 67–350). For full RTW, the median number of days in TAU+OT was 315 (IQR: 165–540) and in TAU 361 (IQR: 151–540). During the 18-month study period, 91% of participants achieved at least partial RTW (TAU+OT=92%; TAU=89%), and 63% full RTW (TAU+OT=66%; TAU=56%).

Health outcomes showed a greater improvement in depression severity in TAU+OT (p = 0.03) as well as an increased probability of long-term symptom remission (p=0.05) when compared to participants in TAU. In addition, the percentage of patients that attained sustained remission (defined as remission longer than six months) was significantly larger in TAU+OT compared to TAU (91.6% versus 69.0%; p=0.04). The probability of return to work in good health (i.e. full return to work while being in remission from depression) also improved more in the TAU+OT condition (p=0.02). During the 18-month study period, patients in TAU+OT used fewer sessions with a psychiatrist (M=10.6, SD=6.3) than those in TAU (M=14.5, SD=8.4; p=0.005) and they were less likely to enrol in day treatment or in-patient treatment (17%) than those in TAU (21%).

Regarding potential therapeutic working mechanisms, no differences were found between groups on coping and self-efficacy, although both groups improved in their active coping (p<0.001) and self-efficacy (p<0.001) and showed a reduction in their passive coping strategies (passive reaction: p<0.001, avoidance: p=0.05).

In summary, in this highly impaired population (at baseline over 60% was absent from work for more than three months and more than two third was depressed for longer than six months)
Research question 2: Which factors promote RTW of employees on sick leave with MDD, as perceived by employees, supervisors and occupational physicians and what are the differences in perception between these stakeholders?

To learn more about factors that promote RTW, stakeholders who had experience with a successful RTW (employees/patients, supervisors and occupational physicians) were invited to participate in a concept mapping procedure. These different stakeholder participants (n=32) generated 60 statements as an answer to the question: ‘Which factors (work -, personal - and other characteristics) have supported return to work (or expanded working hours) of patients suffering from depression?’ Prioritising and clustering of these statements by participants (n=41) yielded a concept map with eight clusters which were grouped in three meta-clusters. The first meta-cluster “Work” comprised three clusters: “Adaptation of work”, “Understanding and support in the workplace” and “Positive work experiences”. The second meta-cluster “Person” comprised four clusters: “Positive and valid self-perception”, “Competence in self-management”, “Positive level of energy” and “Supportive home environment”. The third meta-cluster “Healthcare” comprised one cluster: “Supportive healthcare”.

Although stakeholders agreed on the relative importance of clusters and meta-clusters, differences emerged when they were asked to rate the importance of each of the 60 single statements. Within the 10 most important statements according to each of the stakeholder groups, employees put more emphasis on ‘Feeling of being taken seriously’ and ‘Sufficient peace of mind to resume work’, while supervisors put more emphasis on ‘Clarity regarding tasks and expectations at work’ and ‘Express mutual trust between supervisor and employee’, and occupational physicians on ‘Stress reduction by temporarily eliminating stressful tasks’, ‘Adjusting the workload in relation to the tasks and/or amount of work’ and ‘Regular communication between supervisor and employee with respect to progress’.
These findings indicate that promoting factors for RTW cover three types; personal, work and health factors. A successful RTW process therefore should try to cover those three categories. Because stakeholders may differ in their perception of importance of those factors, differences should be discussed between stakeholders in order to prevent hampering of the RTW process.

**Research question 3: Which factors impede the RTW among employees on sick leave with MDD, as perceived by employees, supervisors and occupational physicians?**

Next we used a concept mapping procedure to increase our understanding of factors that delay RTW. Here participants (n=32) comprised of employees, supervisors and occupational physicians, who themselves or whose employees/patients had experienced an inability to RTW within one year after starting sick leave because of MDD. The question: “Which factors (work, personal and/or other factors) contributed to the fact that you have (or your employee/patient has) not been able to return-to-work within one year of being on sick leave?” generated 60 statements.

Prioritising and clustering of statements by participants (n=38) yielded a concept map with a nine cluster and three meta-cluster solution as best fit. The first meta-cluster “Person” comprised four clusters: ”Personality/coping problems”, ”Symptoms of depression and co-morbid (health) problems”, ”Employee feels misunderstood” and ”Resuming work too soon”. The second meta-cluster “Work” comprised three clusters: ”Troublesome work situation”, ”Too little support at work” and ”Too little guidance at work”. The third meta-cluster “Healthcare” comprised two clusters: ”Insufficient mental healthcare” and ”Insufficient care from occupational physician”.

The three stakeholder groups most frequently ranked statements as important (≥3.5 on 5 point Likert scale) which were included in the clusters ”Symptoms of depression” and ”Personality/coping problems”. Within these clusters, employees put most emphasis on ”Symptoms of depression” (e.g. ‘Employee suffers from worrying, concentration or memory problems’, or ‘Employee is too tired, has low energy’). Supervisors did so on ”Coping problems” (e.g.}
‘Employee feels ashamed, a failure and is reluctant to return to work’ or ‘Employee has difficulty facing problems and to reflect on his behaviour, which hinders recovery’). Compared to employees, the supervisors and occupational physicians ranked more frequently statements pertaining to the meta-clusters “Work” and “Healthcare” as important. Within these meta-clusters, supervisors put more emphasis on insufficient healthcare (e.g. ‘Psychiatric advice not to resume work’) and occupational physicians on a lack of support in the work situation (e.g. ‘There is a (dormant) work dispute’).

The relationship between promoting and impeding factors discussed in Research Question 2 and 3 needs some explanation. With respect to the “Work” meta-cluster, some factors are only promoting (e.g. ‘Clarity regarding tasks and expectations at work’), some are only impeding (e.g. ‘Employer does not feel competent about the supervision process’). But often distinction is not clear because factors are in some way related to each other. For instance, factors promoting RTW (e.g. ‘Express mutual trust between supervisor and employee’) may also occur as impeding factors, but more extensively described (e.g. ‘Employer wants to get rid of employee’, ‘There is a (dormant) work dispute’, ‘Employee receives little support with his problems at work’, ‘Employee no longer fits into the organisation’, ‘Supervisor demands too much from the employee’, ‘Employee is put under pressure at work’). Therefore, the RTW process, alongside promoting factors, should also consider impeding factors. Attention to those factors should be offered at an early stage of the sick leave period to prevent a delayed RTW.

Research question 4; What are the similarities and differences in perceived promoting factors for RTW of employees on sick leave due to MDD, between Dutch (western) and Surinamese (non-western) stakeholders (employees, supervisors and occupational physicians)?

In the Netherlands the number of employees with a non-western background is increasing, but there is a lack of knowledge on the method and effectiveness of return-to-work interventions for those employees once on sick leave due to MDD. To improve this knowledge, we studied
factors that promote RTW in Suriname, a non-western country. There we repeated the concept mapping procedure on promoting factors for RTW after sick leave due to MDD as carried out in the Netherlands (stated as a western country). In Suriname, stakeholders (n=39) generated 75 statements after being asked the focal question “Which factors have supported return to work (or expanding work) in patients suffering from depression?”. The prioritising and clustering procedure (n=49) yielded a largely comparable framework of three meta-clusters and eight clusters.

We also found some interesting differences between Dutch and Surinamese stakeholders in the meaning and interpretation of these (meta-) clusters. In the Dutch study, the emphasis in the meta-cluster “Person”, lies on the employee’s personal development, while in the Surinamese study it is on being accepted and respected within a group of colleagues. In the meta-cluster “Work”, the emphasis in the Dutch study is on a supervisor who creates a stepwise RTW plan in consultation with the employee, based on adjustments in the work environment, shared responsibility and openness. In the Surinamese study the emphasis in this meta-cluster is on the supervisor’s responsibility to create a RTW plan, in which he has to mediate, with respect to the employees’ safety, social position and career opportunities. In the last meta-cluster “Healthcare”, the emphasis in the Dutch study is on professional support. In Suriname, in this meta-cluster “Individual strength and external support”, the emphasis is on professional support, but also on social support, spiritual support and on inner mental strength.

This study reveals that cultural differences may influence perceived promoting factors of the RTW process and provides knowledge to make RTW interventions ‘diversity proof’. Because RTW strategies are more effective when they suit personal expectations, professionals should try to be aware of these differences. This may be of particular interest for companies comprising of employees with different cultural backgrounds, but further assessment should reveal to what extent these cultural differences may have diminished, for instance by acculturation process.
Research question 5: At what level of work functioning are employees with MDD in remission, who returned to work, performing, and what factors (demographic, health, personality and work characteristics) influence impaired work functioning?

We assessed work functioning among employees for whom MDD was again in remission and who returned to work for at least 50% of their original contract hours (n=68). We used data from the OT intervention study (n=117, Chapter 2). Although employees had recovered (MDD in remission), and were working for a substantial part (M=92%) of their original contract hours, their work functioning was still impaired. On average they scored higher both on the Work Limitation Questionnaire [WLQ], in comparison with a healthy control group described in a Canadian study, and on the Need For Recovery scale [NFR], in comparison with the Dutch reference score. Moreover, one third of the NFR scores exceeded the second cut-off point (>54), which indicates an increased risk for (mental) health problems, absenteeism and accidents at work.

The strongest predictors for work limitations were personality factors (measured at 18-month follow-up), followed by health factors (measured at 6 and 12-month follow-up) and work factors (measured at 18-month follow-up). After a stepwise procedure, only one personality factor remained as a predictor, i.e. a passive reaction coping style to work related problems. Because of the increased risk for negative health and work outcomes among employees, additional support is needed for those vulnerable to persisting impaired work functioning, in particular those with a persisting passive reaction coping style. Mental health interventions should take this into account and RTW professionals (occupational physician, RTW coordinator or supervisor) should support the employee in his impaired ability to manage his work environment.
Additional value of OT on RTW and health outcomes

Comparison of RTW outcomes

Earlier studies show considerable differences in RTW outcomes, i.e. mean time to RTW and percentage RTW at one-year follow-up. With respect to time to RTW (see Table 1) 91% of participants in our intervention study reached partial RTW and 63% reached full RTW at 18-month follow-up. Comparable figures are found in a study among employees diagnosed with MDD (Vlasveld et al., 2013a), where 61% reached full RTW at 12-month follow-up, and in studies including employees diagnosed with depressive symptoms (no MDD) by occupational physicians (Brenninkmeijer et al., 2008; Roelen et al., 2012), where more than 70% reached full RTW at 12-month follow-up. This percentage goes to 90% in a study on participants diagnosed by occupational physicians with depressive disorders, but excluding participants with co-morbidity (Flach et al., 2011).

With respect to the duration of the RTW period, our OT intervention study revealed a mean time to partial RTW of 15 weeks and 54 weeks for full RTW. In other studies among employees with MDD, time to full RTW was shorter (25-30 weeks), but those participants were diagnosed by an occupational physician (Vlasveld et al., 2013a; Koopmans et al., 2008) or by a self-rating scale (Nielsen et al., 2012). In a Finish population study including fulltime employees, the median time to RTW after depression-related absence was considerable shorter, accounting for a median of 34 days (IQR; 20–69) (Ervasti et al., 2015), but in this study employees with distress may also have been diagnosed with depression. It has been suggested that these differences might be explained by symptom severity and sickness absence period (Cornelius et al., 2011; Nielsen et al., 2010; Brouwers et al., 2009).

In addition, symptom severity partly explains RTW outcomes (Werff et al., 2010; Timbie et al., 2006) and duration of sick leave may add to this impact (Brouwers et al., 2009; Roelen et al., 2012).
As revealed in our study on impeding factors (Chapter 3), in particular personality factors are likely to play a role in the decision about returning to work. Avoidant and catastrophising coping strategies, in particular among workers who believe that their work has either caused their health problem or made it worse, may induce the fear that symptoms get worse by going back to work. Fear on how to re-establish relationships with colleagues and supervisor may add to this impact (Henderson et al., 2011). This may be more pronounced among employees already on long-term sickness absence because they have lost contact with the work environment. Therefore, the reason for a longer RTW period in our study may be due to the severity of the depression (78% were depressed for more than six months; more than 50% had experienced at least two depressive episodes) and a longer period of sickness absence before the start of treatment.
(median 19 weeks, 63% were absent for more than 13 weeks and 17% longer than one year), as both influence the RTW period.

**Comparison with interventions studies improving RTW**

Two recent systematic reviews examined the effectiveness of interventions for depressed workers with respect to work outcomes (Furlan et al., 2012; Nieuwenhuijsen et al., 2014). Furlan et al. (2012) assessed 12 studies aiming to improve management of depression in the workplace. Studies revealed that clinical interventions and interventions specifically directed towards work functioning (cognitive behavioural therapy by labour expert, guideline adherence and stress reduction programmes) do improve work outcomes. However our study is difficult to compare with these studies because they included employees still at work, having less severe mental health or psychological problems.

Recently, Nieuwenhuijsen et al. (2014) included in a review 23 studies, comprising also clinical interventions and work-directed interventions for patients with depressive disorders. First, no differences in results on sickness absence were found for different types of antidepressant medication. Second, improvements on RTW were a result of psychological interventions, i.e. cognitive behaviour therapy provided by telephone, online or computerised (Bee et al., 2010; Hollinghurst et al., 2010; McCrone et al., 2004), and a structured telephone outreach and care management programme (Wang et al., 2007). In addition to our two studies in which we added OT to TAU, only three other work directed interventions were included in this review. These three studies showed mixed results on RTW. Comparison with former studies, however, is difficult because they included participants with other diagnoses apart from MDD, such as dysthymia, anxiety disorder and adjustment disorder (Lerner et al., 2012; Noordik et al., 2011). Furthermore employees included were only on short-term sick leave (Vlasveld et al., 2013a; Bee et al., 2010), or were still (partly) at work (Lerner et al., 2012; Hollinghurst et al., 2010; Wang et al., 2007; McCrone et al., 2004).
Comparison with previous occupational therapy intervention

In the past decades our research group executed two intervention study with addition of OT to TAU; the first, #1 (Schene et al., 2007; de Vries and Schene, 2003; Kikkert et al., 2002) and the second, described in Chapter 2, #2. Both studies included a high number of employees who experienced recurrence of depression at baseline (#1: 55%; #2: 53%) and a long duration of sickness absence (#1: M=34 weeks, SD=24 weeks; #2: Median=19 weeks, IQR=10-41 weeks). Comparisons of outcomes of these two OT interventions are presented in Table 2. Although not described in this thesis, we also measured satisfaction with regard to the interventions on a ten point satisfaction scale. Patients satisfaction of both OT interventions was comparable (#1: M=8.5 and #2: M=7.1). Health outcomes (depression symptoms and symptom remission) did not improve in #1 between 0-12 months follow-up, but did improve between the 13-42 months follow-up. Health outcomes also improved in #2. RTW outcomes (time to RTW and the amount of hours worked) did improve in #1 between the 0-18 follow-up period, but did not hold on for the 19–42-month follow-up period. RTW outcomes did not improve in #2. Coping style was affected in #1 (palliative reaction, and comforting thoughts), but not in #2.

Table 2. Comparison of the present study and previous study on addition of occupational therapy to care as usual

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<thead>
<tr>
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<th>Addition of OT</th>
<th>Addition of previous OT</th>
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<tr>
<td>18-month follow-up</td>
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<tr>
<td>Satisfaction (mean, range 1-10)</td>
<td>7.1</td>
<td>8.5</td>
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<tr>
<td>Health outcomes</td>
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<tr>
<td>RTW outcomes</td>
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<tr>
<td>Coping style</td>
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</table>

Several factors may explain the differences in improvement of RTW outcomes in the two studies. First, political and societal change since early 2000, such as the installation of the gatekeeper Act, increased recognition that early RTW facilitates recovery from depression and subsequent changes of attitudes of professionals. This increased attention for RTW may decrease the additional value of OT, because there is also more focus on RTW in the control condition.
Second, both interventions were developed at the Academic Medical Centre. This development creates an increased climate of interest for RTW among treating health professionals over time. Their increased attention for RTW may also influence the employee’s mind set on RTW, resulting in an improved RTW (Millward et al., 2005; Elinson et al., 2004). Again this increased attention may reduce the added value of OT on RTW. Third, treatment in the TAU condition may also have improved in the period between the research period in early 2000 (previous-OT) and early 2010 (Chapter 2), for instance due to the different research programs that were carried out by this department. This may have diminished the contrast between TAU+OT compared to the TAU condition. Fourth, the difference in intervention may also explain difference in outcomes: the previous-OT intervention took more sessions and the focus, apart from the work environment, was also on personality and home environment.

**Improved health outcomes**

Interestingly, both our OT interventions showed improved health outcomes compared to TAU although these were not reflected in RTW outcomes. Improvement of health outcomes may therefore rely more on the OT interventions and OT professionals. Our interventions include an activating approach combined with generating group support; both are common therapeutic strategies in the treatment for depression (Multidisciplinaire richtlijn, 2013; Riet et al., 2003). Furthermore our OT professionals were specialized in treatment of patients with depression because they were connected to the Mood Disorder Program.

Improved health outcomes were also found in work-directed interventions discussed in previous reviews (Vlasveld et al., 2013a; Lerner et al., 2012; Kawakami et al., 1997). Symptom severity therefore may also improve by efforts aimed to improve RTW. The OT intervention and statements that promote RTW (Chapter 3) comprise elements that are also used in strategies to improve symptom severity (Schoevers and Parmentier, 2015) e.g. stress reduction (i.e. statement ‘Stress reduction by temporarily eliminating stressful tasks’ or ‘Improving the balance between home and work’), influencing negative thoughts (i.e. ‘Feeling of not being taken seriously’, ‘Employee
is hindered by factors such as being too demanding, too perfectionistic or having too little self-confidence’) and a physical approach (i.e. ‘Relaxation through engaging in sports’). Because the addition of OT to TAU improved health outcomes, and also counted for lower healthcare costs throughout the 18 month study period for participants in TAU+OT condition (Hees et al., in progress), the addition of OT should be preferred in terms of both health outcomes and healthcare costs, even if RTW results are mixed.

**Strategies for RTW improvement and contribution of OT**

This thesis revealed that RTW outcomes after sick leave due to MDD are affected by health-, personal-, and work-factors. This is in accordance with the WHO’s International Classification of Functioning, Disability and Health (ICF), which states that in addition to health characteristics, personal and environmental characteristics are also important in the RTW process (Schneidert et al., 2003). This finding is supported by studies among employees with depression and mental health problems (Andersen et al., 2012; Lagerveld et al., 2010; Verboom et al., 2011; Cornelius et al., 2011; Werff et al., 2010) and in accordance with experiences among employees on sick leave due to other health problems, such as back pain (Loisel et al., 1994), chronic low back pain (Kuijer et al., 2006), work related injury (Krause et al., 2001), musculoskeletal conditions (Wilkie et al., 2012) and employees on sick leave in general (Dekkers-Sánchez et al., 2011). However, this multifactorial approach in assessment and support of RTW, makes the RTW strategy for employees with MDD a rather complex process. Results of this thesis provide tools to improve a multifactorial approach (piece of advice, a checklist and a guideline) and may suggest a stepwise approach.

**Multifactorial approach**

Statements on promoting factors for RTW (Chapters 3 and 5) can be used as *piece of advice*. They may generate ideas and enable employees to decide what is most important for them to reach a successful RTW. Employees experienced these statements as a useful tool for themselves to gain
more insight on how to further improve their RTW process. Statements were also adapted by an occupational health service where they were used as a supportive tool for employees to improve their RTW process. Because symptoms of depression may affect the ability of decision making and expressing needs, this may be a particularly useful tool for employees affected by MDD.

The statements from the different studies (Chapter 3, 4 and 5) can also be used as a checklist. For developing this checklist we changed impeding statements into promoting ones and removed redundant statements of the three studies (Appendix 1). This resulted in a checklist that enables a RTW coordinator to make sure that all factors that may promote or impede RTW are covered. It may also clarify differences in perspectives between stakeholders when the importance of different factors is discussed.

Based on the themes representing statements that support (Chapters 3 and 5) or impede RTW (Chapter 4), we developed a guideline (appendix 2). This guideline is a more comprehensive instrument, based on the clustering of statements. It enables stakeholders to discuss the importance of different themes important for RTW and may result in a RTW strategy. It may subsequently improve a multidisciplinary approach and better communication between stakeholders, which enables them to adapt strategies to each other. A good cooperation is defined as a vehicle for RTW, and may also decrease the gap between intention and implementation, (Andersen et al., 2012; MacEachen et al., 2006; Franche et al., 2005), important for a sustained RTW.

Stepwise approach

Stressors in the work environment increase the incidences of MDD (see introduction). In turn reduction of work stressors may improve RTW, but, the importance of influencing work environment may be more important for employees with less severe symptoms compared to employees with severe symptoms (Klink and Terluin, 2005). This may also declare the limited result on RTW for employee with MDD in our OT intervention study and comparable work-directed interventions (Vlasveld et al., 2013; Noordik et al., 2013) and more favourable RTW
outcomes of work-directed interventions in studies including also employees with less severe symptoms (Lerner et al., 2012; Rebergen et al., 2009; Blonk et al., 2006; Kawakami et al., 1997). This finding should also be incorporated in RTW strategies.

Previous studies on improving RTW after sick leave due to low back pain, recommended to distinguish three disability phases defined by the number of days off work: acute (up to 1 month), sub-acute (2–3 months), and chronic (more than 3 months) (Franche and Krause, 2002). It is suggested that health factors are determining predictors of disability in the acute phase, whereas psychosocial factors have a stronger predictive value in the chronic phases of disability. This suggestion is underlined in Dutch studies among employees with low back pain; a workplace oriented intervention only (instead of the addition of graded activity) improved RTW among employees on short-term sickness absence (< 6 weeks) while integrated care (workplace intervention and the addition of a graded activity program) improved RTW for those on long-term sickness absence (Anema et al., 2007; Lambeek et al., 2010).

Interestingly in our study, the addition of OT showed promising results for RTW among those on short-term sickness absence (< 3 months), but their number was too small to reach significance (Hees et al., 2011). With respect to long-term sickness absence, in our study carried out in 2000, the addition of previous-OT improved RTW. The focus of this previous-OT intervention was apart from work environment, also on personality and home environment. This finding underlines that a workplace intervention may be beneficial only for those affected by short-term sick leave and that additional support is needed for those on long-term sickness absence.

A stepwise approach therefore may be useful for employees on sick leave due to MDD. In line with Loisel et al. (1994) in the context of lower back pain, we suggest a three-step approach:
1) Detection of cases at risk of chronicity
2) Workplace intervention
3) Additional or Rehabilitation intervention

Early detection of risk for chronicity means to define: 1) if the employee may return to work within the first six weeks of a sickness absence period, 2) if the employee may return within the short-term sickness absence period (< 3 months), or 3) if the employee is vulnerable to long-term sickness absence (> 3 months). Based on former studies, employees vulnerable to long-term sickness absence can be distinguished by health characteristics (severity of symptoms, co-morbidity and frequent periods of MDD), personal characteristics (personality traits, absence of leisure time activity, stress events in personal situation) and work characteristics (burdening work environment, frequent sickness absence periods), (Endo et al., 2015; de Vries et al., 2014; Vlasveld et al., 2013b; Norder et al., 2012; Hjarsbech et al., 2011; Koopmans et al., 2008). This detection should be offered through a multidisciplinary approach (occupational physician, medical specialist, employer and employee) to cover the multifactorial approach.

The addition of a workplace intervention to clinical treatment may be recommended, for employees who should be able to return to work within a three months period. The OT intervention discussed in this thesis may suit at this stage. CBT interventions that incorporate RTW may also suit at this stage. For employees vulnerable to long-term sickness absence, the RTW process should include, in addition to treatment for depression and a workplace intervention, efforts to cope with personality problems and coping problems and unsettled work-home balance. For this, elements of our previous OT-intervention can be used. In addition, treatment should be offered as integrated care, in consultation with the work environment, instead of additional care, to ensure that stakeholders work together properly.

Vocational rehabilitation may be offered when the employer is not capable of creating a good fit between employee and workplace.
Based on clinical evaluation of the results of the intervention study, this was often a reason for the inability to reach RTW. An Individual Placement and Support (IPS) approach, the most successful intervention for achieving RTW for patients with severe mental illness (Bond et al., 2012), may suit in this situation. It is also possible to create collaboration with other employers, to achieve exchange for employees who do not fit in within the former company.

**Methodological considerations**

This thesis has several strengths. First, for all studies, the study population consisted of a homogeneous group of employees, all diagnosed with MDD by a psychiatrist. Second, for evaluating the effectiveness of adjuvant OT, a randomised controlled study was used which is considered the gold standard for evaluating the effectiveness of an intervention. Third, we combined quantitative and qualitative research. In the latter, we built on direct experience of not only health professionals, but also the experience of patients and supervisors, who are the immediate stakeholders. Adding qualitative research helps to better understand both therapeutic and return to work processes. Fourth, for assessing work functioning, the assessment included multiple factors, covering health, personal and work characteristics.

However, there are also some limitations to be considered.

**Severity**

Employees participating in the OT intervention study were all referred to the Academic Medical Centre and received high quality psychiatric care. Because only 50-64 percent of participants with MDD in developed countries and 15-24 percent in less-developed countries receive treatment (Lépine and Briley, 2011; Prins et al., 2008; Kessler et al., 2008; Dewa et al., 2011) this may indicate that we only included highly impaired employees, which affects generalisability of our findings. Indeed, as discussed earlier, participating employees showed long absence periods (63% longer than three months), long MDD duration (69% were depressed for more than six months),
and 54% had at least one previous absence period due to MDD. This severity may also have
reduced the additional value of OT.

*Short and long-term*

It is also suggested that there is a difference in factors that improve RTW for those on short-term
sick leave (< 3 months) and long-term sick leave (> 3 months), (Franche and Krause, 2002; Loisel
et al., 1994). Because both groups were included in the interventions study, this may have reduced
the effect of the addition of OT as this intervention may improve RTW in particular among those
with short-term sick leave (Hees et al., 2011).

*Quality of TAU*

Participating employees all received high quality care, including cognitive and behavioural
techniques. This care showed improved remission rates (m=47% at 12-month follow-up in TAU)
compared to a comparative study on cognitive-behavioural therapy and psychodynamic therapy
(m=23% at 12-month follow-up), (Driesen et al., 2013). Moreover, TAU includes cognitive
behavioural techniques. All staff members were trained in those techniques and were part of TAU
protocol. These techniques also improve RTW (Nieuwenhuijsen et al., 2014) and may therefore
reduce the additional value of OT.

* Differences in background*

Differences in social background, value orientation, attitude to mental health and the legislative
context influence the RTW process (D’Amato and Zijlstra, 2010; Evans-Lacko and Knapp, 2014)
and may influence results and generalisation of the findings. Our two OT interventions are based
on the Dutch culture values such as openness and communication. On the one hand, in countries
with less openness and communication regarding sick leave due to mental health disorders, this
strategy may be inappropriate.
On the other hand, it is also possible that addition of OT is more effective in countries with less openness on mental health problems, precisely because the intervention forces employee and supervisor to discuss limitations with respect to progress. These differences occur between countries, but also within one country, for instance due to differences in process of acculturation (Hofstede and Hofstede, 2009). Because differences in social background were not part of the assessment within the Dutch studies, we do not know to what extent discussed promoting or impeding pertain to Dutch employees with a different background.

**Perspectives of recovery**

Full RTW may be the aim from an occupational perspective, but this may be conflicting with the aim from a healthcare perspective. For instance, instead of reaching full RTW, having more time for other suitable activities may be of higher importance from a healthcare perspective. In addition, perspectives of successful RTW differ among stakeholders (Hees et al., 2012); besides time to partial or full RTW also sustainability, at work functioning, job satisfaction and work-home balance were noticed as aims of interest by employees, supervisors and occupational physicians. Assessing those latter outcomes may influence results of both quantitative and qualitative studies.

**Recommendations for future research**

*Quantitative examination of the hypotheses*

Qualitative studies performed in this thesis (Chapters 3, 4 and 5) were useful to help expand our understanding of the RTW process. Although qualitative studies are more suitable to capture the complex processes characterising RTW compared to quantitative research (Andersen et al., 2012), results have to be validated with further quantitative research. Due to the high number of promoting and impeding factors, selection of the most important factors that promote, impede, or are associated with cultural differences on RTW, should be part of further hypothesis testing research.
The effect of cultural differences on RTW

In 2009, ten percent of the Dutch workforce had a non-western background (Bouma et al., 2011). Apart from employees with a Surinamese background, employees with a Moroccan and Turkish background were the largest groups. These groups have an increased probability of receiving disability benefit (Dautzenberg et al., 2005). Because those groups differ in cultural background, it would be recommended to study perceived promoting factors among employees from Morocco and Turkey. Acculturation may differ within these groups when participating in a western culture. Further research should explore to what extent cultural background still involves RTW perception of those employees. Finally, research should assess to what extent the same or different cultural background between employee and supervisor/employer affects the process RTW.

Sustainability

MDD shows high recurrence rates and subsequent sickness absence (Endo et al., 2013; Hardeveld et al., 2010). Sustained RTW should therefore be part of future research. Work functioning may be one of the predictors because impaired function is a predictor of negative health and work outcomes. Still 50% of employees with MDD are able to continue working despite their symptoms (Latinen-Krispijn and Bijl, 2000). Factors that enable this continuation may also influence sustained RTW. A comparable study was carried out among employees with non-specific musculoskeletal pain (de Vries et al., 2012), which reveals that those who stayed at work showed an improved ability to cope with symptoms in the work environment. This may also apply for employees suffering from MDD. For this purpose follow-up periods of three to five years are recommended, because among employees with MDD 85% show recurrence of sickness absence within three years, and 60% of those treated in mental health show recurrence of MDD within five years (Endo et al., 2013; Hardeveld et al., 2010).
**Stepped care and/or multifactorial approach**

The addition of OT intervention with its focus on work environment, did not improve RTW in the research population, but appeared more favourable among those employees on short-term sick leave. The former OT intervention, which besides work, also focussed on personality and work-home balance, improved RTW. These findings should be part of further research by introducing a stepwise model and focus on vulnerability for short- and long-term sickness absence. Although symptom severity, personality and a troublesome work situation may be predictors, further exploration of differences between these groups is needed. Within these different groups, further assessment should reveal the additional value of OT interventions. To improve a multifactorial approach, the additional value of a guideline or checklist should be part of further research. Finally, the differences, or a combination of these approaches, may be further investigated.

**Work stress**

Work characteristics resulting in increased levels of work stress were found to increase the incidence of depression. Within the intervention study, mean values on work stress measured by the VBBA (work-demands, decision latitude and support) at baseline, were indeed elevated compared to the norm, resulting in elevated levels of need for recovery and impaired work pleasure (Hees et al., 2011). Interestingly, at 18-month follow-up among employees who returned to work, these values were more or less comparable with reference values in general population, although need for recovery was still impaired (Chapter 6). This may indicate that reduction of work stressors is important when an employee is still suffering from depression, but less important for sustained RTW.

**Implications for clinical practice**

**Multifactorial**

RTW in employees with MDD needs a multifactorial approach, including health, personality and
work factors. Perspectives on the most important factors that promote RTW may differ between involved stakeholders and should be addressed in the RTW process. Coordination of the RTW process means therefore that the different factors involving the RTW process need to be monitored, differences in perspectives need to be assessed and discussed and interventions should be adapted to each other. The use of a multifactorial guideline or use of stepped care may clarify which interventions are needed and improve cooperation and subsequently the process of RTW.

*Culturally sensitive support*

Stakeholders should be aware of the employee’s cultural background and subsequent beliefs regarding RTW, and integrate this in RTW strategies. Healthcare interventions should adapt to different expectations, for instance by incorporating the employee’s social network in the RTW strategy among employees with a non-western background. Supervisors must be aware that expectations of employees with a non-western background may differ and realise that an adaptation of their preferred RTW strategy may be more effective. If RTW strategies cannot be adapted, employees with a non-western background may need education on RTW strategies used in western society.

*Work functioning*

Even when MDD is in remission, employees may still show impaired work functioning which may demonstrate a risk of subsequent recurrence of MDD or sickness absence. In particular personality characteristics are associated with this impaired functioning. This may be more pronounced in partial RTW and when an employee is not yet fully recovered from MDD. Additional and continuing support for those employees on improving the ability to manage the work environment may improve work function and subsequent long-term health and societal outcomes.
Occupational therapy

RTW should be integral to clinical interventions, and not be a separate second stage after ‘treatment’ is completed, as was suggested for employees with low back pain (Waddell and Burton, 2005; Anema, 2012) and employees with severe mental illness (Bond et al., 2012). These interventions should include cooperation with the work environment. Dutch policy aims to decrease the number of treatment sessions for patients/employees with MDD and to encourage early referrals to the “Basis GGZ” or to select this as preferred supplier for health intervention. In order to prevent negative work and health outcomes, work-directed interventions and functional rehabilitation intervention should be added to this basic care and offered as integrated care. It is recommended to offer these interventions by well trained professionals, who are familiar with the work environment (Brouwers et al., 2007; Kendrick et al., 2005). Both our developed OT interventions are useful in this approach although improvements have to be made to cover the multifactorial and stepwise approach. This additional intervention should be financed by a combination of healthcare, social security and workplace, as results are beneficial for all three

Conclusion

From the present thesis, it can be concluded that successful RTW in employees with MDD relies upon a multifactorial approach, including health, personal and work factors. Stakeholder differences in perceived promoting factors on RTW, their cultural background and a proper cooperation, should be incorporated in this RTW process. Also, more effort is needed to improve impaired work functioning, as it may be a vehicle for sustained RTW. The addition of the OT intervention improves health outcomes and may improve work outcomes. The effectiveness of the OT intervention may rely on the type of intervention and the vulnerability to short- or long-term sickness absence.
References


### Appendix 1. Checklist on factors that promote RTW after sick leave due to depression

<table>
<thead>
<tr>
<th>Person</th>
<th>True</th>
<th>False</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Self-esteem</strong></td>
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<tr>
<td>Employee has self-confidence</td>
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<tr>
<td>Employee feels taken seriously and acknowledged</td>
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<tr>
<td>Employee feels understood</td>
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<tr>
<td>Employee has a strong inner will and feels able to survive</td>
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<tr>
<td>Employee feels secure and is assertive</td>
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<tr>
<td>Employee does not feel ashamed, or a failure</td>
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<tr>
<td>Employee is not hindered by factors such as being too demanding or too perfectionistic</td>
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<tr>
<td>Employee is not reluctant with respect to return to work</td>
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<tr>
<td>Employee has faith in better times</td>
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<tr>
<td><strong>Coping ability</strong></td>
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<tr>
<td>Employee is able to identify his problems and his needs</td>
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<td>Employee is aware of, and expresses his limits</td>
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<td>Employee is able to set goals compatible with the energy required for the task</td>
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<tr>
<td>Employee is able to reflect on his behaviour and to discuss his own functioning</td>
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<tr>
<td>Employees is willing to take responsibility</td>
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<tr>
<td>Employee does not externalises the origin of his problems</td>
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<tr>
<td>Employee is able to deal with fear of failure</td>
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<tr>
<td>Employee expresses persistence</td>
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<tr>
<td>Employee is able to put work into perspective</td>
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<tr>
<td><strong>Balanced work / home situation</strong></td>
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<tr>
<td>There is a balanced work/home situation</td>
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<tr>
<td>Employees experiences understanding and support from family and/or friends</td>
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<tr>
<td>Employees is able to talk with people in the home environment</td>
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</tbody>
</table>
Appendix 1. Checklist on factors that promote RTW after sick leave due to depression

<table>
<thead>
<tr>
<th>Adaptation of work environment</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
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</thead>
<tbody>
<tr>
<td>The employee is not hindered by additional responsibilities at home (e.g. care for sick child, partner or parent)</td>
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<tr>
<td>Employee experiences support from (church) community</td>
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<tr>
<td>Employees does not fill the week with too many social activities</td>
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<tr>
<td>Employee undertakes restoring activities such as sport and relaxation</td>
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<tr>
<td>Stress is reduced by eliminating stressful tasks</td>
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<tr>
<td>Workload is adjusted in relation to the tasks, responsibilities and/or amount of work</td>
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<tr>
<td>Supervisor creates suitable solutions with respect to employee’s position</td>
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<tr>
<td>There is a work environment without an excess of stimuli</td>
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<tr>
<td>Employee is offered a suitable employment</td>
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<tr>
<td>Employee is able to set own work pace and to organise own tasks</td>
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<tr>
<td>Supervisor does not demand to much form employee</td>
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<tr>
<td>There is clarity regarding tasks and expectations at work</td>
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<tr>
<td>Employee does not need too much support</td>
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<tr>
<td>Support in work environment</td>
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<tr>
<td>There is a safe working climate, pleasant work atmosphere</td>
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<tr>
<td>Employee feels accepted and respected at work</td>
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<tr>
<td>Employees is not hindered by feelings of embarrassment</td>
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<tr>
<td>There is understanding and support from colleagues</td>
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<tr>
<td>There is understanding and support on the part of the supervisor</td>
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<tr>
<td>There is regular communication between supervisor and employee with respect to progress</td>
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<tr>
<td>Supervisor and employee have expressed mutual trust</td>
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<tr>
<td>Employee receives enough structure and guidance from work environment</td>
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<tr>
<td>Positive work experiences</td>
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<tr>
<td>Employee has passion for his work</td>
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</tbody>
</table>
Appendix 1. Checklist on factors that promote RTW after sick leave due to depression

<table>
<thead>
<tr>
<th>There is no (dormant) work dispute</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
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</thead>
<tbody>
<tr>
<td>Employer does not want to get rid of employee</td>
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<tr>
<td>Employee did not resume work too soon to succeed</td>
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<tr>
<td>The reintegration process is not hindered by reorganisations at work</td>
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</tbody>
</table>

**Healthcare**

**Restore**

<table>
<thead>
<tr>
<th>Employee has sufficient peace of mind to resume work</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
</tr>
</thead>
<tbody>
<tr>
<td>There is a suitable reduction of (depressive) symptoms</td>
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<tr>
<td>Employees has suitable level of energy for the required tasks</td>
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<tr>
<td>Employee does not suffers anymore from worrying, concentration or memory problems</td>
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<tr>
<td>Besides depression employee is not hindered by other (psychiatric) problems</td>
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</table>

**Supportive Healthcare**

<table>
<thead>
<tr>
<th>There has been adequate assessment and referral to appropriate treatment by occupational physician</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
</tr>
</thead>
<tbody>
<tr>
<td>There is adequate coordination between clinician, occupational physician, supervisor and employee</td>
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<tr>
<td>Treatment is sufficient and meets the need</td>
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<tr>
<td>The reintegration process is clear to the employee</td>
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<tr>
<td>Employee has understanding of the origin of the depression</td>
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<tr>
<td>Employee experiences support from involved medical professionals (psychologist, general physician)</td>
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<tr>
<td>Employee obtains tools to cope with the depression and with problems</td>
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<tr>
<td>Employee is not hindered by side effects of healthcare interventions (e.g. medication advice)</td>
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</tr>
</tbody>
</table>

**Conclusion**
<table>
<thead>
<tr>
<th>Theme</th>
<th>Promoting in Western culture</th>
<th>Promoting in non-western culture</th>
<th>Impediments</th>
</tr>
</thead>
<tbody>
<tr>
<td>Self-esteem and acknowledgement</td>
<td>Employee experiences taken seriously and recognitions for his personal goals</td>
<td>Employee experiences acknowledgement for his work and there is attention for reinforcement of his group position</td>
<td>There is attention for employee’s feelings of shame, feeling a failure or too little self confidence</td>
</tr>
<tr>
<td>Coping ability</td>
<td>Employee is able to state goals, to state his limits and to discuss his abilities</td>
<td>Employee feels responsibility and requires tools to solve problems</td>
<td>There is attention for employee’s reluctance and inability to discuss own functioning</td>
</tr>
<tr>
<td>Positive level of energy</td>
<td>Employee experiences a reduction of symptoms and improved energy level</td>
<td>Employee experiences sufficient mental strength and willingness for RTW</td>
<td>There is attention for employee’s experienced symptom severity and co-morbidity (addiction, personality or physic)</td>
</tr>
<tr>
<td>Work/home balance</td>
<td>Employee experiences a supportive home environment to affect work environment</td>
<td>Employee experiences responsibilities towards family for RTW</td>
<td>There is attention for employee’s experienced disruptive home environment</td>
</tr>
<tr>
<td>Adaptation of tasks</td>
<td>Tasks are adapted in accordance with employee and fitting employee’s ability</td>
<td>Supervisor has created a safe work environment</td>
<td>There is attention for employee’s experience to be put under pressure</td>
</tr>
<tr>
<td>Support</td>
<td>There is an open communication and employee experiences support from supervisor and colleagues</td>
<td>Employee experiences that he is accepted and respected by colleagues.</td>
<td>There is attention for supervisors (in)ability to support employee</td>
</tr>
<tr>
<td>Prospect</td>
<td>Employee experiences pleasant work</td>
<td>Employee experiences a positive position in organization</td>
<td>There is attention for the possibility that the employer wants to get rid of employee</td>
</tr>
</tbody>
</table>
## Appendix 2. Guide on promoting RTW after sick leave due to depression

<table>
<thead>
<tr>
<th>Theme</th>
<th>Promoting in Western culture</th>
<th>Promoting in non-western culture</th>
<th>Impediments</th>
</tr>
</thead>
<tbody>
<tr>
<td>Care</td>
<td>There is sufficient treatment and support to RTW adapted to other involved stakeholders. Employee experiences supportive mediation and treatment by professionals and support from social network and religion.</td>
<td>Employee experiences supportive mediation and treatment by professionals and support from social network and religion.</td>
<td>There is attention for a lack of communication or cooperation between all involved stakeholders.</td>
</tr>
</tbody>
</table>